ATTACHMENT B

[Possibly attach in Appendix photos of repatched streets.]

ATTACHMENT C
Municipal Economic Development Agencies

Indianapolis, Indiana Department of Metropolitan Development
Jacksonville, Florida Economic Development Commision (JEDC)
City of Boston, Massachusetts Office of Business Development
Cincinnati, Ohio Department of Economic Development;
Albuquerque, New Mexico Office of Economic Development
City of Dallas, Texas Economic Development Department.

A. [example if possible]

ATTACHMENT D

Studies on the Effects of Utility Cuts

Indirect costs of Utility Placement and Repair Beneath Streets, University of Minnesota, Raymond L. Sterling, Report No. 94-20, p. 28;

The Effect of Utility Cuts on the Service Life of Pavements in San Francisco, Volume I: Study Procedure and Findings, Ghassan Tarakji, PH.D, P.E., Final Report, May 1995, p. 19;

Estimated Pavement Cut Surcharge Fees For the City of Anaheim, California Arterial Highway and Local Streets, IMS Infrastructure Management Services, Inc., December 9, 1994, p. 2;

The Effects of Utility Cut Patching on Pavement Performance in Phoenix, Arizona, Project 499, City of Phoenix, July 18, 1990, p. 5.;

Impact of Utility Cuts on Performance of Street Pavements, Final Report, Andrew Bodocsi, Prahlad D. Pant, Ahmet E. Aktan, Rajagopal S. Arudi, Cincinnati Infrastructure Institute, Department of Civil & Environmental Engineering, University of Cincinnati, 1995, Exec.

ATTACHMENT E

[Cite, and possible attach in Appendix, the County's pleadings in the BA case.]

ATTACHMENT F

See City of Dallas, Texas v. FCC, op. cit. at ___. **[cities' briefs in that matter.]**

157TH STORY of Level 1 printed in FULL format.

Telephony

February 15, 1999

SECTION: Vol. 236, No. 7 Pg. 16; ISSN: 0040-2656; CODEN: TLPNAS

LENGTH: 552 words

HEADLINE: Competitive carriers celebrate progress

BYLINE: Biagi, Susan

BODY:

Three years after the Telecommunications Act of 1996 was signed into law, the Competitive Telecommunications Association, newly merged with America's Carriers Telecommunication Association, threw a party to celebrate the occasion. FCC Chairman William E. Kennard sliced a cake as a brass band from Morehouse College shook up the house and CompTel '99 attendees blew horns and tossed streamers under a thunderstorm of blue and white balloons.

The general mood was one of celebration of the triumph of competition. "We're starting to see the benefits it has brought us, and we can see the shape of the new competitive world," Kennard said in his keynote address.

The telecom industry is in a **growth** spurt due to the passage ol the act, he said. "The communications segment of our economy has grown by over $ 140 billion, the revenues of new local service providers more than doubled in 1997 and they almost doubled again in 1998," Kennard said.

However, he cautioned that it is time to move beyond the litigation, which has primarily supported the telecom act, and ensure the doors of competition are open. To do that, the FCC must hammer out "the three pathways to competition"resale, facilities-based competition and unbundled network elements.

The FCC plans to resolve the latter issue by this summer, but in the meantime, Kennard said, "the (regional Bell operating companies) and GTE have agreed to fulfill their current obligations as set forth in the existing interconnection agreements, to provide unbundled network elements."

This year, the FCC will tackle broadband access, access charge restructuring, universal service reform and reciprocal compensation. In addition, Kennard said, the FCC is focusing on enforcing the telecom act, first by establishing an enforcement bureau. He cited the success of the Rocket Docket process, which speeds up complaints, and noted that he plans to "level the playing field to provide service in rural areas, too."

His comments were met with cheers and applause from the audience, consisting mostly of competitive local exchange carriers and interexchange carriers.

Former Speaker of the House Newt Gingrich was also on hand to celebrate the act's third anniversary. Opportunity is ripe for competitive carriers with a plan, he said. "We can go further in the next 40 years than we have in the last 120," he said.

Gingrich said progress hinges on a service provider's ability to define a plan. He outlined the four steps required for a successful plan: Determine the vision, implement a strategy, establish projects-the process of adhering to the strategy-and define tactics. Visionaries can accomplish their goals by following four simple steps: listen, learn, help and lead, he said, adding that the GOP's Contract with America was designed using the same process.

Not painting a rose-colored picture, Gingrich acknowledged the challenges ahead. The incumbent/competitive carrier battle will be a permanent "process of struggle," he said. On the international side, he added, "we need to recognize that the world market is a country-by-country process. We're not as good at that as a country. We need a national pro-competitive policy and an international procompetitive policy, and to communicate the opportunities of the next few years."

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Telecommunications (Americas Edition)

September 1999

SECTION: Vol. 33, No. 9 Pg. 60-62; ISSN: 0278-4831; CODEN: TLCOAY

LENGTH: 1108 words

HEADLINE: CLEC improves market share efficiency with next-gen OSS solution

BYLINE: Guzman, Victor; Holt, Jerry

BODY:

The emergence of competitive local exchange carriers (CLECs) into the local U.S. telecom market has forever changed the complexion of competition. According to Atlantic-ACM, **CLEC revenues will increase at a compound annual growth rate of 45.6 percent until 2003 and will reach an estimated $ 40.5 billion, or about 25 percent of the $ 162 billion local market forecasted for 2003.**

Maintaining competitiveness in this new arena presents many challenges. CLECs need to stay on the cutting edge of technology. As older manual methods of accessing the operations support systems (OSS) of incumbent local exchange carriers (ILECs) become obsolete, the market forces CLECs to embrace electronic ordering and provisioning. aThe benchmark for success as a CLEC has rapidly evolved from network deployment to services execution," said Terrence L. Barnich, president of New Paradigm Resources Group Inc. "Automated processes in ordering, provisioning, customer care and network management have become a strategic necessity for any CLEC hoping to realize its business plan."

Midwestern Telecommunications, a 2-year-old CLEC based in Chicago, was looking for an OSS solution to transition it from the manual order processing method to an electronic ordering and provisioning system. The manual system was delaying order processing and, because of ILEC Ameritech's stringent guidelines, the order rejection rate was as high as 30 percent. The slightest paperwork error could set an order back five business days. Repeated errors and rejections often postponed orders by a month or more. Moreover, a manual order cost $ 6 more to process than an electronic order. While all electronic orders were processed the same day, Ameritech made no guarantee regarding how quickly it would handle a manual order. Ameritech also charged an additional $ 20 to change orders (e.g., adding or dropping features, temporarily suspending customers) when the paperwork was done manually.

"The **growth** of the CLEC market share and increased customer base will force many local competitors to reassess their current back office systems," explained ACM analyst Marne Turk. "Legacy systems and processes are no longer sufficient in today's fast-paced, competitive marketplace.'

Midwestern was growing rapidly and needed an OSS that would allow the company to expand business, cut down on ordering and provisioning delays, keep abreast of ever-changing provisioning rules and provide better customer service. With plans to expand the company's customer base from Illinois to Indiana, Michigan, Ohio and Wisconsin, Midwestern needed a solution that could quickly and efficiently meet its requirements. After assessing its back office systems, Midwestern decided to make the migration to electronic data interchange (EDI). The solution included a suite of order entry and order management, provisioning, customer care and billing products. The software took advantage of the EDI/CORBA interfaces published by ILECs and allows a CLEC to exchange orders electronically, while maintaining all order information locally in a relational database. Other CLEC systems, such as billing, could easily be integrated into the EDI architecture to establish flow-through operations.

The EDI ordering and provisioning system is an off-the-shelf solution that enables a CLEC to order resale services from any ILEC. By implementing this software, Midwestern was able to electronically process orders faster, reduce error and rejection rates, and dramatically lower the costs assessed by Ameritech for ordering its services. The browser-- based application has a dedicated line to Ameritech's OSS and simplifies the speed and process of collecting vital customer account information from the ILEC, including:

Customer service record (CSR) acquisition;

Address validation;

Due date negotiation;

Telephone number reservation;

Service availability.

By seamlessly integrating the preordering functions of CSR acquisition and address validation into the ordering windows, the solution gave Midwestern a repeatable process for accurate ordering and fulfillment. Business rules built into the software verify that all required fields have been entered before the order is sent, reducing the chance of rejection.

Although Midwestern was initially concerned about converting from manual order processing to electronic order processing, the company quickly became a strong proponent. Not only did the EDI software solution pay for itself in less than six months, it helped Midwestern grow from 3000 to 30,000 customers in less than two years. In addition, it decreased Midwestern's order rejection from 30 percent to 10 percent or less, which in turn provided **phone** service to customers at a faster rate.

Now that Midwestern **Telecommunications** has seen the advantages of converting to an EDI ordering and provisioning system, the company is ready to automate another labor-- intensive process-its billing systems. By the end of July, the company was using billing software that allowed it to efficiently maintain billing and payment histories as well as access usage detail data provided by Ameritech in CD format.

Like many CLECs, Midwestern plans to make customer billing records available to its CSRs when they deal directly with subscribers on the telephone, a capability which should greatly improve customer satisfaction. In addition, Midwestern plans to use the billing software to obtain customer profiles, track inventory, log remarks, keep detailed invoice histories, generate bills and assist in revenue assurance and call detail level processing.

Competition has created a dynamic, technology-intensive environment for ILECs. As ILECs seek out and embrace the newest technologies to **increase** their effectiveness and service, CLECs will continually be forced to keep pace by adopting new technologies to effectively interface with them. CLECs will also need to explore other businesses areas that can be automated to provide better and faster customer service at a lower cost.

If this subject interests you, circle 320 on reader service card or use Contact Express on-line at www. telecommagazine. com.

(Chart Omitted)

Captioned as: OSS gateway supports telecom service transactions between CLEC and trading partners.

Author Affiliation:

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LENGTH: 2424 words

HEADLINE: A Suite Deal At Steep Cost; Md. Is Offering Generous Incentives To Keep Marriott. But Is It Selling Its Soul?

BYLINE: Peter Behr; Judith Evans, Washington Post Staff Writers

BODY:

To its shareholders, Marriott International Inc. is worth more than $8.5 billion in stock market value.

To the 3,500 employees at the company's Bethesda headquarters, a job with Marriott is worth an average of $68,000 a year.

So what's Marriott worth to Maryland?

The answer should come in about a week, when Marriott discloses whether it will stay in Maryland, where it has been based since 1955, or whisk itself into waiting arms in Northern Virginia. Marriott Chairman J.W. "Bill" Marriott Jr. last week said Maryland had made a strong effort to keep the company, but he added that no decision had been made.

The loss of the Marriott headquarters to rival Virginia would be a devastating blow to the state's prestige and economic competitiveness, say some state government and business leaders.

"We're between a rock and a hard place," said Ioanna T. Morfessis, president of the Greater Baltimore Alliance, an economic development agency.

"We don't have that many headquarters companies. We need to do what we have to do to keep Marriott here."

But winning would leave scars, too. A victory in this four-month-long auction would cost Maryland taxpayers $35 million over the next 12 years in tax breaks, transportation improvements and other incentives if the company kept and expanded its present headquarters off Interstate 270 and Democracy Boulevard. The total would rise to $58 million if Marriott built a new building in Rockville, as the company is also considering. In either case, construction of new Interstate 270 interchanges would account for one-third to one-half of the package, state officials said.

The Marriott payment -- a record for state economic development incentive awards -- would be likely to cause other Maryland companies to escalate their demands for tax breaks as the price for remaining in the state, some experts predict. While winning would enable Maryland to keep the Marriott name on its marquee, the state would be paying a steep price for 700 new jobs -- the number that Marriott estimates it will add to its headquarters work force over the next few years.

The competition is even opening some old wounds. Maryland officials, who long to focus outsiders' attention on the state's technology clusters, educational resources and tourist attractions, now face more political battles over taxes, services and political priorities that do nothing to help the state's image.

Morfessis and other state leaders worry about the fallout if Marriott gets what it's asking for. "It raises the issue, 'What about all of the other companies that have been doing business and paying their taxes?' " Morfessis said. "At some point they could get in line and say, 'What are you going to do to keep me here?' Inevitably, more will follow."

Champe McCulloch, president of the Maryland Chamber of Commerce, said in today's environment any large corporation feels derelict if it doesn't try to get incentives when it expands. "Is [a Marriott deal] likely to raise the bar and inflate the cost? If I had to guess, I'd say probably."

Last fall, Marriott officials and their relocation consultant met with Maryland Department of Business and Economic Development officials at the company's headquarters to warn that the company was prepared to leave the state unless its financial needs were met. The opening request was for about $70 million, sources said. Maryland officials were taken aback by the size of the request, which was based on the highest amounts the state had paid in other economic incentive packages, according to sources.

Soon after, Virginia officials put a competing offer of $6 million in incentives on the table, the start in the tug-of-war for one of the nation's largest lodging companies. Marriott was willing to consider a much smaller package from Virginia because the company believed it could operate more cheaply across the river.

Only the outlines of the competing offers have been released, and some key details of Maryland's proposal won't be finalized until state lawmakers enact special legislation to create the largest items in the tax-break dowry. Under current plans, Marriott would have 90 percent of its property tax bill wiped out by state and county credits for a dozen years if it met employment and expansion targets.

At the heart of the duel for Marriott is the company's lease for its headquarters, which expires in 2004. The company's 808,482-square-foot building in Bethesda is simply too small. Behind the walls, 3,500 employees work in cramped quarters on floors where old metal cubicles fill every inch of space. The tattered orange carpeting under their feet is being replaced and new marble floors are being installed at the building's front entrance.

With a decision to make on its lease, the company decided to compare the costs of operating in Virginia and Maryland, said Marriott, who became determined to "level the playing field" between the two states.

"We basically told them that the cost for us of doing business in Maryland was something close to $40 million more than it was in Virginia," over a 20-year period, Marriott said. Unless that gap could be closed, Marriott would consider moving across the Potomac.

"I live in Maryland. I'm proud to be Marylander, but at the same time, I run a public corporation and I've got to look out for my shareholders," Marriott said last week in a meeting with Washington Post reporters and editors.

However economically defensible Marriott's argument may be, it has drawn political fire.

Del. Leon G. Billings (D-Montgomery), an outspoken critic of the deal, contends that the price Maryland is paying for Marriott is too high. "If Bill Marriott wants to pay lower income taxes and get lower quality of services, he should [go] to Virginia."

Some observers wonder whether business costs are the only issue for Marriott. It has long been common for corporations to shift operations to lower-cost parts of the country, and New York City has lost a number of corporate headquarters for that reason, notes John Rhodes, president of Moran, Stahl and Boyer, an Atlanta consulting firm that assisted Mobil Corp. in its move to Fairfax in 1984 and, more recently, helped Columbia Energy Group move from Delaware to Herndon.

But it's unusual for such a move to turn on the issue of tax incentives, said Rhodes. "Most major corporations do not incentive-shop their headquarters. And they rarely move solely for incentives."

Marriott officials declined to detail the $40 million tax gap that they say triggered the bidding contest, so the underpinnings of Marriott's argument aren't obvious.

Many studies have shown that Maryland's overall tax burden is higher than Virginia's, although both rank in the bottom half of the states in total taxes as compared with residents' incomes, according to University of Virginia economics professor John Knapp.

And Maryland's problem isn't business taxes, as Marriott has contended in its analysis. According to a 1996 study by the Coopers & Lybrand accounting firm, Maryland charges about 12 percent less in total business taxes on a typical office operation than does Virginia.

It is Virginia's personal income tax that is substantially lower than Maryland's, and Marriott officials say that was not part of their calculation.

In any case, the $40 million tax gap, spread over 20 years, is about $2 million a year, or less than 1 percent of Marriott's annual $250 million headquarters salary payments, according to company figures.

The payment to Marriott, however, would take a large chunk out of the state's economic development resources, based on the limited information released so far about the offer.

The administration of Maryland Gov. Parris N. Glendening has invested about $20 million a year in loans and grants to companies that promise to expand or relocate in the state, using its "Sunny Day" economic development fund.

A majority of the funds have been invested in a cross section of well-known Maryland firms, including McCormick & Co., the Hunt Valley spice maker; Bethlehem Steel Corp.'s Sparrows Point plant; and Human Genome Sciences, one of a cluster of biotech firms centered in Montgomery County.

The program has tilted toward preserving Maryland's base rather than attracting new companies: For every job created under the program, two existing jobs have been retained.

So far, Maryland legislative leaders have not supported Glendening's request to raise funding to $30 million annually.

The debate over Marriott's move may go beyond numbers. Bill Marriott indicated last week that Northern Virginia was appealing for reasons other than just taxes, referring enthusiastically to the expanding cluster of Internet and telecommunications companies along the Dulles Corridor and likening it to Silicon Valley.

"It's incredible what's happened [there]," he said. "They're all choosing to go to Virginia, and I think Maryland feels that in order to attract businesses and to retain businesses they're going to have to level the playing field."

That's a mission many of Maryland's business leaders endorse, said McCulloch, the state chamber president.

"It isn't just the way businesses are taxed," he said. "Businesses also pay higher wages because Maryland's income taxes are higher and relocation costs are higher. There are regulatory hassles and uncertainty -- each business values that differently." But these, too, are costs, he said.

But Maryland business and political leaders have spent the past four years debating the state's economic strengths and weaknesses, without settling on a clear strategy that has broad support.

In last fall's gubernatorial campaign, Republican Ellen R. Sauerbrey hammered away on the need for deeper tax cuts, warning that Virginia was "cleaning our clocks." The message appealed to Marriott, who switched his allegiance to the Republican after endorsing Glendening four years before.

While Marylanders agreed by 2 to 1 that Virginia was doing a better job than Maryland of attracting new businesses and promoting economic growth, according to a statewide poll in October, two of every three voters said they were satisfied that the home state's economy was doing fine. And they reelected Glendening.

In the view of Montgomery County Del. Billings, spending taxpayers dollars on Marriott is the wrong choice. State assistance ought to be channeled to places such as Allegany and Somerset counties or Baltimore City, which are really in need, said Billings, who believes that subsidies for a successful global company like Marriott aren't justified. "How do you explain that to Bob, who owns a service station in Kensington that I go to, or to the people at the Safeway, or to any number of businesses?"

But to some state legislators and other officials, the record-breaking offer the state has made to retain Marriott is worth every penny. By its mere presence in Bethesda, Marriott serves as a potent promotional tool in the state's effort to recruit new companies, they say.

Del. Kumar Barve, (D-Montgomery), a member of the House Economic Matters Committee, said: "The national trend is that companies are routinely asking for money like this. Marriott is a prestigious international company. When the state markets Maryland as business friendly for other businesses to come here, having happy businesses already within the state is a strong selling point."

Glendening's new secretary of business and economic development, Mike Lewin, says he wants to get the state out of its defensive crouch and to spend his time talking up Maryland's economic advantages. Instead, he has been in the thick of the fight to head off Marriott's defection.

It's a fight over old ground that Marylanders seem certain to visit again.

Comparing the Deals

The debate over Maryland's bid to keep Marriott in Montgomery County has been fueled in large part by the amount of money that would be spent to keep the hotel giant in the state. For purposes of comparison, here are the biggest deals the state and its counties have struck before Marriott.

Loans,

grants

from Total

Sunny Day loans,

Fund grants

New Retained (in (in

Year Company jobs jobs millions) millions)

1996 Northrop Grumman* 1,500 7,200 $12.1 $18.1

1997 Human Genome 140 285 2.0 18

Sciences

1996 MedImmune 215 135 4.0 10.4

1998 Allied Signal 400 900 1.0 8.8

1997 Baltimore Marine 775 50 4.0 7.75

Industries

1997 Bethlehem Steel 0 500 5.5 6.15

Corp.*

1997 Safeway* 0 549 2.0 4.3

1997 Domino Sugar 20 479 3.0 3.825

1997 T. Rowe Price 250 750 1.0 3.75

1998 MRL Systems 903 558 3.0 3.6

1999 Marriott 700 3,500 NA 35**

International (if stay and

expand current

headquarters)

58**

(if move to

Rockville

location)

* Grant spread out over multi-year period

** Includes up to $20 million in transportation funds for I-270 interchange

SOURCE: Maryland Department of Business and Economic Development

A Look at . . .

Marriott International

Business: The world's second biggest lodging company with more than 300,000 rooms. Also operates senior living facilities and food service distribution.

Headquarters: Bethesda

Founded: 1927

Chairman, chief executive:

J.W. Marriott Jr.

Brands: Marriott Hotels, Resorts and Suites; Ritz-Carlton; Renaissance Hotels and Resorts; Marriott Executive Residences; Courtyard; Residence Inn; TownePlace Suites; SpringHill Suites; Fairfield Inn

Ticker symbol: MAR on the NYSE

Web address: www.marriott.com

Source: Company reports, Bloomberg News, Dow Jones Interactive If Marriott International Inc. decides to remain based in Maryland, it might keep and expand its cramped Bethesda headquarters, whose lease expires in 2004, or move to Rockville. A year ago Marriott added the Washington Marriott Wardman Park Hotel on Woodley Road NW to its area properties. The 3,500 employees at Marriott's Bethesda headquarters work in metal cubicles crowding a building that's too small, but there seem to be few complaints about the cafeteria's offerings.

GRAPHIC: Map, The Washington Post; Chart, The Washington Post; Illustration, The Washington Post; Photo, DUDLEY M. BROOKS; Photo, JAMES [illegible] THRESHER; Photo, TOM ALL[illegible]

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Multichannel NEWS

See BROADBAND WEEK Page 51 | VOLUME 20 · NUMBER 41 · OCTOBER 4, 1999 · $4.00 | www.multichannel.com

Armstrong, Hindery Lobby FCC on Ownership Vote

By TED HEARN

WASHINGTON — AT&T Corp., backed by congressional allies, is pressuring the Federal Communications Commission to be as flexible as possible with new cable-ownership rules the agency is expected to adopt at a special Oct. 8 meeting.

AT&T chairman C. Michael Armstrong and AT&T Broadband & Internet Services president and CEO Leo J. Hindery Jr. both paid visits to top FCC officials last week, urging them to craft rules that cause little, if any, damage to AT&T's plans to acquire MediaOne Group Inc. and a 25.5 percent stake in Time Warner Entertainment.

Topping things off was a Washington visit by Amos Hostetter, an AT&T director and prospective nonexecutive chairman of AT&T Broadband. While he skipped making the rounds at the FCC, Hostetter gave a speech in which he basically told the commission that if the rules mangle AT&T's merger plans, the agency will ruin the best chance for local phone competition.

"It is in this context that the [FCC] should review the cable-ownership rules, and I hope it will do what is necessary to kick-start the market for competitive services," Hostetter said in a speech to the Washington Metropolitan Cable Club.

HOSTETTER

Current FCC rules, which are not being enforced, bar one cable operator from owning systems that pass more than 30 percent of all U.S. homes. The agency is expected to adopt a 30 percent to 40 percent cap, but to base it on the total number of subscribers to cable and direct-broadcast satellite, rather than on homes passed.

While that's a change AT&T

See FCC, page 69

DRUMMING UP SUPPORT

AT&T Execs Jawbone on Merger, Stock

By MIKE FARRELL

HARTFORD, CONN. — AT&T Corp. executives made the public-appearance rounds last week in what some analysts said was a clear effort to boost the company's pending acquisition of MediaOne Group Inc.

AT&T has lobbied — privately and publicly — to ease ownership-attribution rules that the combined company would exceed. And the telecommunications giant wants to pump up its sagging share price to avoid having to pay MediaOne shareholders more to make up the difference.

Last week, AT&T chairman C. Michael Armstrong, AT&T Broadband & Internet Services president Leo J. Hindery Jr. and nonexecutive chairman Amos Hostetter were all on the lecture circuit.

HINDERY

Armstrong gave the keynote at an investors' conference in Manhattan; Hindery spoke on a panel in Washington, D.C., and lectured in Hartford, Conn.; and Hostetter spoke to the Cable Club in Washington.

The venues changed, but the message was clear: If the federal government wants true competition in the telephone market, it had better relax the cable-ownership rules.

On Oct. 8, the Federal Communications Commission is expected to vote on those rules, which cap the percentage of households a single cable operator can control at 30 percent.

With the MediaOne merger and its various affiliations, AT&T would have access to more than 40 percent of total U.S. cable homes by the FCC's measure.

AT&T has been divesting partnerships to pare down. And last week, Cablevision Systems Corp. — of which AT&T owns about 35 percent — said it might sell or swap systems with about 714,000 subscribers.

See ARMSTRONG, page 67

Portland May Seek AT&T Alternatives

By JOE ESTRELLA & LINDA HAUGSTED

Portland, Ore., the focus of the open-access wars, will not wait to see if the courts uphold its authority to unbundle AT&T Corp.'s high-speed network.

Instead, it's gone looking for a facilities-based competitor willing to build an open broadband platform capable of delivering Internet services to area residents.

Meanwhile, the access issue spawned in Portland continues to ripple throughout the country. It emerged last week in Fairfax, Va., as part of a Cox Communications Inc. franchise transfer. And in Somerville, Mass., elected officials reacted strongly to MediaOne Group Inc.'s decision to hold back data-service rollouts over the access issue.

Portland's "request for qualifications" is the latest countermove in a fight over AT&T's refusal to open its local cable network to outside Internet-service providers.

Presumably, a second network would have the high-speed-data market to itself, since AT&T also refuses to roll out its AT&T@Home data-over-cable service in Portland because of the city's contested open-access ordinance.

> *"We have a company withholding broadband access."*
>
> *Portland franchising director David Olson*

"We have a company withholding broadband access," Portland franchising director David Olson said. "The FCC keeps saying that there's plenty of broadband competitors out there. Well, rather than sitting on our hands, let's find out."

AT&T admitted to being "caught between a rock and a hard place" in its open-access fight with Portland. That battle shifts to the Ninth Circuit Court of Appeals for oral arguments Nov. 1.

"They have every legal right to do this," AT&T spokeswoman Sarah Dussick said. "We would like to be the company providing those services. Unfortunately, we can't comply with their [open-access] ordinance."

Sources said the RFQ — a forerunner to a request for proposals — has "been on the street" for weeks. Designed to elicit "expressions of interest," it has reportedly drawn responses from regional Bell operating company U S West, competitive local-exchange carriers and other cable overbuilders.

Another possibility is a municipal overbuild. A source close to the situation said early respondents included a California-based firm specializing in helping local governments to fund and build their own telecommunications networks.

"And the mayor is on record as saying that's something we would look at," the source added.

The deadline for responses is today (Oct. 4). Councilman Erik Sten will tentatively report to

See SOMERVILLE, page 70

INSIDE

Somerville, Fairfax Climb Into the Ring

Continued from page 1

the Portland City Council on the results at a Nov. 8 meeting.

Observers expect Portland's RFQ to draw more than causal interest, especially among major power companies with an eye on the telecommunications market.

"A lot of power companies could well be interested," Paul Kagan Associates Inc. analyst John Mansell said. "Companies like Seren [Innovations Inc.] and RCN [Corp.] are showing up from coast-to-coast."

But Mansell added that some potential suitors may be scared off by AT&T's lawsuit or by fear that the city's proposal is "gamesmanship involving the case."

"There's no gamesmanship involved," Olson countered. "These are very serious stakes, just as the litigation is very serious."

Elsewhere on the open-access front, Somerville officials said the city would hold public hearings on the access question following MediaOne's decision not to roll out its Road Runner service in the Boston suburb of 80,000.

The MSO chose to look elsewhere after Mayor Dorothy Kelly Gay asked the Federal Communications Commission for an advisory opinion on whether cities can require ISP access as part of the franchise-transfer process. Somerville is considering a request that would send its MediaOne system to AT&T.

MediaOne spokesman Rick Jenkinson admitted that the city's filing "clouded" the regulatory landscape, prompting the company to "stand down" in Somerville, where it planned to introduce Road Runner later this year.

Kelly Gay responded with a letter promising public hearings in conjunction with Rep. Michael E. Capuano (D.-Mass.) and the Berkman Center for Internet and Society at Harvard Law School.

In his own strongly worded response, Capuano said it was clear that MediaOne's decision was intended as "payback" for the city's filing at the FCC.

Meanwhile, MediaOne recently got some support for its position from a special magistrate named by the Massachusetts Department of Telecommunications and Energy to oversee the transfer of the MSO's 175 franchises to AT&T.

In his nonbinding report, Judge Charles J. Beard found that open access should not be an issue considered by regulators weighing a transfer.

Meanwhile, in Washington, D.C., charges of high-speed-data redlining have been levied at the two companies.

The Telecommunications Advocacy Project filed a petition against the merger with the FCC, alleging that modem service is deployed rapidly in high-income neighborhoods, but less aggressively in low-income, predominantly African-American and Hispanic neighborhoods.

Fairfax, meanwhile, has joined Oregon's Portland and Multnomah counties and Broward County, Fla., in testing the open-access waters.

The Fairfax City Council voted unanimously last week to transfer 5,600 Media General Inc. subscribers to Cox Communications Inc., but it then **amended the deal on a 4-2 ballot to require that Cox unbundle its newly acquired network.**

Cox closed its $1.4 billion acquisition of Media General's properties in the area last Friday. "We look forward to providing high-quality video programming and other advanced broadband services for customers in northern Virginia," Cox CEO James Robbins said in a press release.

"We were definitely surprised," Cox spokeswoman Amy Cohn said of the government move. "It had never come up in any public hearing. Then all of a sudden, it came up last week. We don't think this is indicative of how customers in Fairfax really feel."

Unless the city reconsiders, the MSO will be forced to pull back from further deployment of the Road Runner service Media General had begun introducing in Fairfax, Cohn added.

"Media General had contractual obligations to deploy Road Runner, and we were going to live up to those obligations," she said.

City officials seemed disinclined to back away from their decision. "By taking this action and supporting open access, we have ensured that our citizens will continue to have the freedom to choose their Internet provider," Councilman Scott Silverthorne said in a prepared statement. MCN

Colo. Officials Back Access Play

By JOE ESTRELLA

DENVER — The open-access debate swirling around cable has filtered down to Colorado's Western Slope.

A group of 20 municipal and county officials recently passed a resolution supporting a local Internet-service provider's bid for leased-access carriage on the AT&T Broadband & Internet Services network in Durango, Colo.

The "Club 20" board of directors also came out in favor of open access to cable's broadband pipe, urging the Federal Communications Commission to require that operators "open their wires" to competitors that are willing to pay "fair compensation."

The resolution said content provided by ISPs satisfies the definition of video programming from the Telecommunications Act of 1996, making it eligible for leased-access carriage under FCC rules.

Internet Ventures Inc., the parent company of the ISP in question, has asked the FCC to declare that data transmission is tantamount to video programming for leased-access purposes. The cable industry opposes that interpretation, and several operators, including AT&T Broadband, have rejected leased-access requests from IVI.

Club 20 acted over the protests of AT&T Broadband, which called open access "one of the most onerous regulations the government can impose on a private company." Furthermore, the company warned that imposition of leased access would endanger its plans to spend $25 million on upgrading its Western Slope facilities.

Club 20 treasurer Orville Petersen said the coalition chose to act after learning that a local ISP, Frontier Internet, had been granted access by Hermosa Cablevision, a small operator in Hermosa, Colo. Meanwhile, a similar request to the former Tele-Communications Inc. system in nearby Durango had been rejected.

"TCI just laughs at you and says, 'Not on your life,'" Petersen said. "So people [with Club 20] said, 'OK, maybe this is something we should look into.'"

In a recent interview with The Durango Herald, Ros Hawks, principal owner of the 1,000-subscriber system in Hermosa, said providing leased access to Frontier made sense.

"[Internet access] is one of those things you see the big companies reserve for themselves," he told The Herald. "We're not interested in doing it ourselves, so when Frontier came to us, we said, 'Why not?' A small system like ours has to be on the cutting edge, or we'll be left behind."

Prior to the Club 20 vote, Frank Galik, general manager of AT&T Broadband's TCI Cablevision of Western Colorado, responded with a letter claiming that "forced access" would slow the deployment of broadband technology in the region.

"Unfortunately, by discouraging new investments like AT&T's, the Club 20 resolution on forced access will do exactly that, leaving the Western Slope with just one monopoly provider with little incentive to invest or provide good customer service," Galik wrote.

In a prepared statement, Redondo Beach, Calif.-based IVI, which owns Frontier, applauded the coalition's support, calling it proof that "supporters of competitive broadband access are emerging."

"We find particular significance in the Club 20 resolution as a symbol of the frustration of rural citizens," IVI president Don Janke said. "Even in Colorado, the 'capital of cable,' residents and decision-makers have decided that competition is critical to providing true consumer choice."

Petersen predicted that AT&T Broadband is fighting a losing battle against open access, noting that the telcos are required to open up their networks to competitors. "If we're going to require that one network be open, than the other one should be, too," he said.

He noted that rural electrical cooperatives spending $40 million to put in a fiber optic network in rural Colorado have already indicated that they will open the system to all comers.

"Their first customer was AT&T," he said. "But at the same time, AT&T claims it would be bad for them to open their network. Well, what's good for the goose is good for the gander." MCN

Excite@Home Surges on Rumors

By MIKE FARRELL

Excite@Home Corp.'s stock has been up on published reports that the company is the target of an acquisition, or that it is planning to split into two separate content and distribution entities.

Excite@Home stock took a wild ride last week, spiking $5.06 per share to $43.44 Sept. 29 on rumors that it would be sold to America Online Inc.

The stock retreated to $41.44 Sept. 30 after those rumors were quashed by AT&T Broadband & Internet Services president Leo J. Hindery Jr., who called the AOL rumor "absurd" in published reports. AT&T Corp. owns a controlling stake in Excite@Home.

Later, Excite@Home's share price climbed again as news of a content-distribution schism surfaced. In early trading Oct. 1, the stock was up $3.63 per share to $45.06.

AT&T released a prepared statement Sept. 30 that seemed to leave the door open for a potential Excite@Home split.

"We have periodically explored, and we continue to explore, many alternatives with respect to our Internet strategy and our ownership interests in Excite@Home," the company said.

"The alternatives include internal options, as well as discussions with third parties," it added. "The exploration of alternatives remains at the very preliminary stage, and at this time, AT&T has not made any decision to pursue any particular alternative or transaction. There is no assurance that any transaction will occur, and we do not intend to comment further unless and until we decide definitively to proceed with one or more alternatives, if any."

AT&T and Excite@Home have been at loggerheads for the past few months. At the forefront of the dissent is Excite@Home's strategy to expand in the content arena, while AT&T insists that it should remain a distribution company.

A split of the content and distribution assets would appear to solve that problem. But there seems to be another voice of dissent on the Excite@Home board of directors — Cox Communications Inc.

According to several published reports, a board meeting to discuss the possibility of a split, which was scheduled for Monday (Oct. 4), has been canceled, apparently because Cox strongly objects to a separation at the data-over-cable provider.

Cox and Comcast Corp., as early investors in Excite@Home, have veto power over strategic transactions by the company. Cox declined to comment on the rumors, but spokeswoman Amy Cohn said the company is happy with Excite@Home's strategy as it is.

At the PricewaterhouseCoopers Global Convergence Summit in New York last week, Excite@Home chairman Thomas Jermoluk said he expects his company's relationship with AT&T to continue.

"We expect to have a very long-term relationship with AT&T," he said. "It's our largest shareholder and our largest MSO partner. Our contracts with our partners were intended to give us time to get to economies of scale." MCN

MAIN EVENT

City urges conservation after water line slashed

By RACHEL HORTON
News Staff Writer

City officials urged Irving water users to temporarily discontinue all outside watering through Sunday after one of two of the city's main water supply lines was shut down Thursday.

The 4-foot diameter pipe, which feeds about half the city's treated water to the MacArthur Pump Station from Dallas, was damaged when a fiber-optic contractor drilled a hole in it Thursday morning, city officials said.

"A private contractor doing fiber optic work was boring under (State Highway) 114, and they hit our water line," said David Ryburn, assistant public works director in charge of water utilities. "We're having a lot of problems with fiber optic contractors punching holes in our pipes."

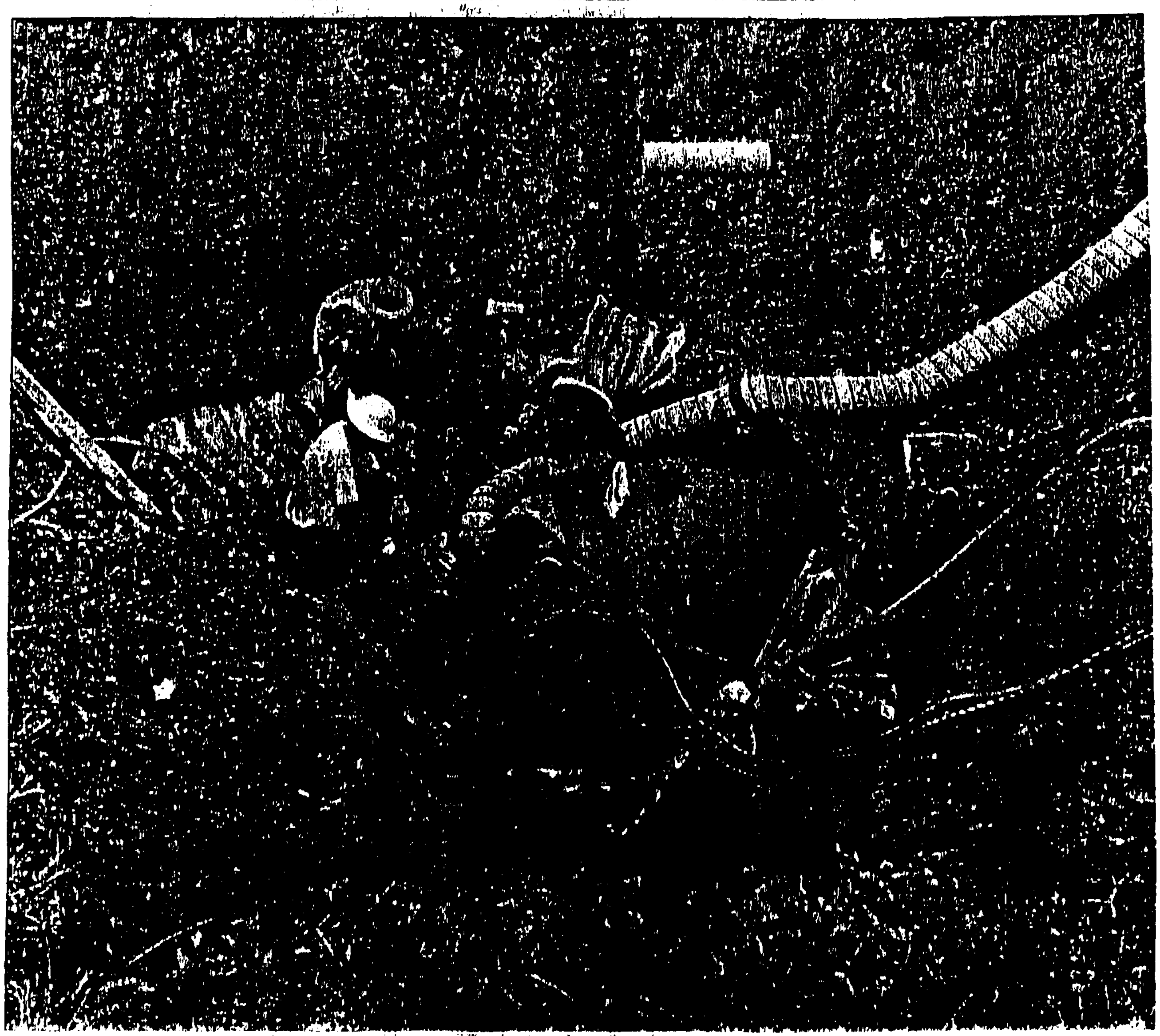
The temporary closing of the MacArthur station strained the city's ability to meet water demands, Ryburn said. The city's entire water supply was diverted to the Hackberry Creek Pump Station, which can deliver a maximum of 49 million gallons of water per day. But the city's demand at this time of summer is about 51 million, Ryburn said.

"In a couple of hours, (the pipe damage) moved us to where we were last summer in one day," Ryburn said, reflecting on the hot, dry weather that required the city to invoke emergency water management restrictions last year. "Our ability is really strained in getting water from the north (pump station) to the entire city."

Use of sprinklers or outside hoses to water lawns or wash cars could cause water pressure in south Irving to diminish, Ryburn said.

"With everybody's help (in not using outside water), we

See WATER, Page 10A



RON BASELICE / News Staff

Digging deep City water department workers and employees of Hanson Construction check a broken water main for carbon dioxide on Friday before repairing the damage caused when the line was broken on Thursday.

TIF board | Keeping baby safe | Demoted pa

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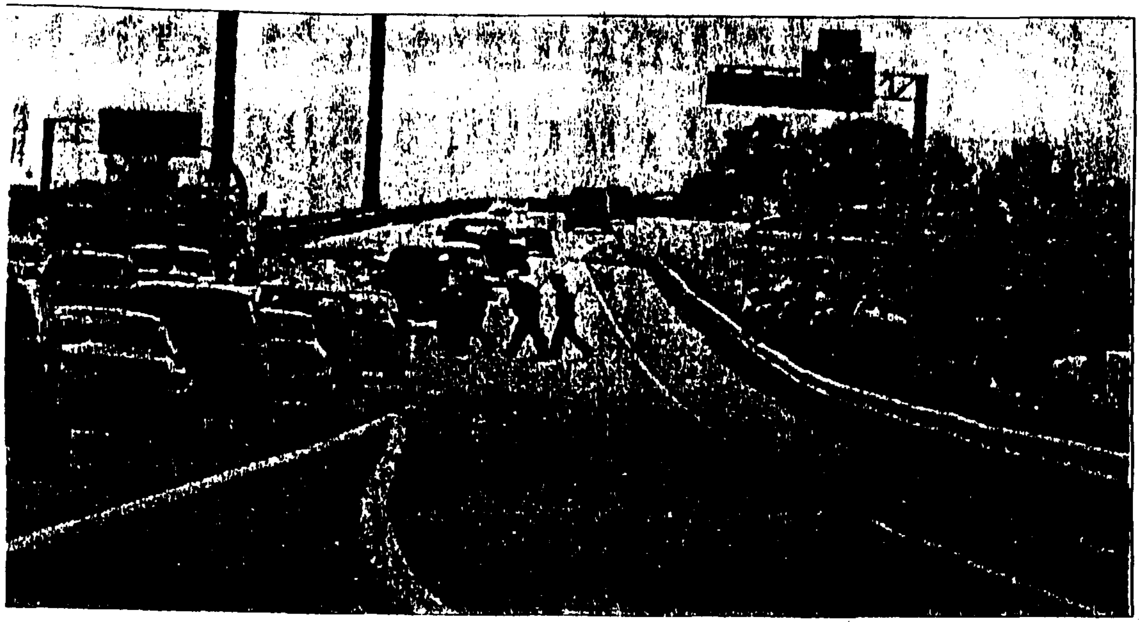

RON BASELICE / News Staff

was open near the Spur 48 interchange on Friday morning because of repair work being done on the broken water main.

Water: City asks for conservation efforts

Continued from Page 1A

think we can make it through," he said. "We just keep our fingers crossed."

The damage occurred on a portion of the water pipe located approximately 12 feet underground, between the eastbound and westbound lanes of State Highway 114, near the intersection of Spur 482.

The city closed two lanes of the freeway — one in each direction — Thursday morning and began excavating to determine the exact location and assess the damage. Meanwhile, Dallas officials sealed the water flow. City workers exposed the pipe Friday morning and began working to repair it. As of press time Friday, Ryburn said he was aiming to complete the r.pair by Saturday.

"If we get it back to normal before Sunday, we will cancel those requests (for limited water use)," he said.

Ryburn said the city lost about four million gallons of water because of the damage, but said it will not cost the city anything. He estimated repairing the damage may cost $100,000.

revises plan again; some councilmen oppose changes

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cuss the plan at noon Wednesday during a special work session.

The $119.9 million plan includes about $40.1 million to fund road and sewer projects, and $40 million to pay for project costs during the life of the TIF. Other projects include a $10 million connection of the Las Colinas Area Personal Transit system to Dallas Area Rapid Transit's system, a $5.5 million Lake Carolyn pedestrian promenade and $6 million for parks.

TIF board members allocated another $6.8 million to fund repairs to DCURD's also to be funded with TIF revenue.

TIF board member Bob Brown, who represents the Dallas County Community College District, said he believes the district will be "well served" with the plan.

"I believe the zone board plan does meet the educational objectives," Brown said.

Steve Mays, the TIF board member representing the Carrollton-Farmers Branch school district, agreed.

"At this point, it's a very good plan for the Carrollton-Farmers Branch school district," Mays said.

that was outlined during a July 2 conference committee of the TIF board and the City Council. Most notably, it reduces a proposed $25 million allocation for the connection of the Area Personal Transit system with DART to $10 million and places the funds in the project-costs category.

The new plan increases the city's contribution to 85 percent of maintenance-tax revenue on future development, instead of the council's suggested 75 percent. Also, it reinstates an agreement by the Las

needs to be at 75 percent."

Putnam said he hopes the council will make changes to the plan before adopting it, though such changes would be stepping on uncharted legal territory.

Acting City Attorney Charles Anderson issued a legal opinion stating the council can make changes to the TIF plan, while TIF board attorneys maintain the board must approve any plan prior to the council adopting it.

"I think we're prepared to adopt a plan

3,600 lose emergency phone service

Help sites set up in S. Arlington

By Rani Cher Monson and Melissa Borden
Staff Writers of the Arlington Morning News

A severed telephone line may have left more than 3,600 South Arlington businesses and some residents without access to 911 emergency service Thursday night.

The disruption — which is expected to last through Friday — was caused when a Southwestern Bell contractor cut a phone line at the intersection of Barton and Matlock roads, Southwestern Bell spokeswoman Michelle Smith said.

The affected area is near the intersection of Cooper Street and Interstate 20.

Authorities set up two command posts for emergencies and officers were patrolling South Arlington streets. Some residents volunteered to help patrol for emergencies, officials said.

In addition, some city employees planned to patrol the streets early Friday to prevent problems and help residents, said Charles Anderson, director of the Water Department.

"We've got enough officers out on the street, so we aren't concerned about any potential problems," said Mike Zufelt, the dispatch supervisor for the police and fire departments. "Other than having the command centers set up, the rest of the beat officers are just patrolling their districts."

Emergency sites have been set up at The Parks mall at South Cooper

Please see Emergency on Page 5A

Emergency service cut to customers

Continued from Page 1A

Street and I-20 and at Fire Station No. 9, 4929 S. Cooper St.

City Manager Chuck Kiefer said it isn't immediately clear what impact the phone loss will have due to the use of cellular phones in the area.

"The service is expected to be out for 36 to 48 hours," Mr. Kiefer said Thursday night. "The outage area is kind of in an oval shape, with The Parks at Arlington mall being in the center."

Arlington has experienced similar phone service outages in recent years. In 1994, for example, two-thirds of the city had no phone service for most of the day.

TCI cable service may have been disrupted by the phone service outage, officials said.

By 8:30 p.m., about 300 people had reported phone service disruptions, officials said.

Mr. Zufelt said it is unclear what neighborhoods are affected by the phone outage.

"It's a possibility that one person may have phone service and their next door neighbor doesn't," he said. "So we don't really know who is affected by it."

Mayor Pro Tem Dottie Lynn said she was surprised to learn that residents could be without phone service for a couple of days.

"That's horrible," Mrs. Lynn said when she heard about the outage. "Don't we have some kind of back-up system?"

Lt. Gary Pipes, who heads the city's emergency operations center, said amateur radio operators are at the two command posts and communicating with dispatchers.

"We have increased the police presence in the area where the phones are out," Lt. Pipes said. "We have established contact posts. Amateur band radio operators are at the command posts. We have fire apparatus and police cars there.

"We will continue to have official personnel to relay information to the dispatch center to provide response."

In addition to regular patrol officers, 12 other officers were sent to patrol South Arlington, Deputy police Chief David Pugh said.

"We have flooded the affected area and tried to beef up all of the areas affected by the outage," he said.

AMN 7/16/99

19TH STORY of Level 1 printed in FULL format.

Chicago Tribune

October 9, 1997 Thursday, NORTHWEST SPORTS FINAL EDITION

SECTION: NEWS; Pg. 1; ZONE: NW

LENGTH: 926 words

HEADLINE: HOFFMAN DRAWING THE LINES FOR FUTURE;
TOWN OUT TO CONTROL DISRUPTION OF CABLES

BYLINE: By Carri Karuhn, Tribune Staff Writer. Free-lance reporter Stephanie Price contributed to this article.

BODY:

Hoffman Estates officials have gazed into the Information Age and pronounced it ugly.

With cable TV companies offering phone service, phone companies offering cable TV and new players constantly stepping into the electronic information market, it won't be long before every house has four different wires sprouting from its aluminum siding.

Municipal rights of way, meanwhile, could be laden with so much heavy black cable that major thoroughfares could look like the insides of telephone switching stations. Even burying cable and wire presents problems, with perpetual street and easement tear-ups, jammed underground rights of way and the increased potential for contractors to cut service with one wrong move of a backhoe.

Fearing this kind of mess, Hoffman Estates officials have hired two consultants to devise a plan for coordinating requests from companies that want to string overhead **wires** or lay **underground cables.** It's an effort that's drawing attention from other communities, where officials are anticipating similar headaches as they try to keep pace with the booming electronic information industry.

"We're anticipating more companies coming in and wanting to run lines and put up towers," said Bruce Anderson, Hoffman Estates' cable TV coordinator. "It isn't something that has happened yet, but it's something we need to plan for in case it does."

Added Mayor Michael O'Malley: "We do not want to tear up the rights of way every week or every month. That disrupts families and it disrupts businesses. It disrupts life in general. This is something we prefer to do once rather than doing it over and over again."

Aside from the convenience factor, the aesthetics of the Information Age are of no small concern.

Local officials don't want their roads looking like patchwork quilts, their utility poles loaded with heavy lines, unsightly towers popping up next to homes, or residents' lawns dug up every time a new company comes into town. And while municipalities cannot restrict companies from doing business in town, they can control what happens to public and private property.

So communities throughout the Chicago area are adopting laws to ensure that contractors clean up as they go and inflict the least **damage**.

For example, in Elgin, where Ameritech Corp. is installing wires for its new cable-TV venture, crews are prohibited from tearing apart streets, sidewalks or other property without the city's permission.

Officials acknowledge that some inconvenience is inevitable. And they are quick to point out that increased competition in the electronic information business is likely to drive down costs and **increase** service quality.

Still, Elgin officials like to boast that not a single road has been torn up while Ameritech has installed its cables.

"You have to balance the two, not only looking after limited resources but also providing citizens with options," said Eric Stuckey, Elgin's public information officer.

"Really, competition will bring better service and hopefully more innovation in products. And that's something our City Council and residents wanted. This isn't just about cable TV. This could be phone service, Internet access."

Others say it's a matter of educating the public: Companies have a right to lay cables, and any inconveniences usually are only temporary.

"That comes with the territory," said Gary Karafiat, community relations manager for Naperville, where crews also are installing wires for Ameritech's new cable TV venture. "The overall goal was to provide a choice and more options and lower prices, and I think that goal has been accomplished."

Some communities say they're not worried because they're too small to attract any serious competition at this point.

In Crystal Lake, which has 28,000 residents, officials say the cost of competing against the established cable company discourages new firms from moving in.

"Typically in a community our size, the cost is prohibitive because a competing cable company would not be able to guarantee market penetration or the necessary number of customers," said Greg Fettes, Crystal Lake's assistant city manager

"Basically, we have very little control over the cable company. I think the citizens would like us to have more control over prices, but we really only have control over a few things, such as where their facilities can go and such."

But Hoffman Estates is going a step further with a formal study to help the village plan and prepare for a future that could be rife with competition.

The consultants, which the village expects to pay a combined $22,000, will gauge future demands for telecommunications in Hoffman Estates; recommend how the village might better accommodate everyone wanting to lay cable, string wires or install towers and antennas; and look at how Hoffman Estates might get the most out of its limited space for utility lines along public rights of way and easements.

In addition, the outside experts will determine whether the suburb should consider installing **underground** ducts to hold **cables and wires.** This way, officials say, less ground would have to be torn apart for installations, and chances of a clumsy contractors cutting service would be reduced.

"We have to manage our resources wisely to make sure that as many people as possible are able to have access to the rights of way," Anderson said. "Lots of people are wanting to do different things. We feel that if we don't start planning now, we'll be caught short later."

GRAPHIC: PHOTOPHOTO: Ameritech worker Mike Morgan (left) and Communications Professionals Inc. coordinator Dan Esposito confer before pulling 3,600 feet of cable at Pickwick and Arlington Heights Roads in Arlington Heights. Tribune photo by George Thompson.

LANGUAGE: ENGLISH

LOAD-DATE: October 9, 1997

23RD STORY of Level 1 printed in FULL format.

Government Finance Review

February, 1997

SECTION: No. 1, Vol. 13; Pg. 48; ISSN: 0883-7856

IAC-ACC-NO: 19233541

LENGTH: 2213 words

HEADLINE: Mastering **telecommunications:** Milpitas develops a master plan; California; includes related article on the finance office's perspective of the plan

BYLINE: Quick, Cecilia M.

BODY:

On November 7, 1995, the city council of the City of Milpitas, California (population 62,000), adopted a long-range **telecommunications** master plan. It was the result of a year-long effort on the part of the city council, the city's **telecommunications** commission, staff, the community, and the city's consultants.

The plan is designed to serve as an instrument to guide the city through the confusing issues raised by the explosion in communication technology. It is composed of two parts: an internal plan covering the city's telephones, computers, and video equipment and an external plan covering the development of a fiber network to connect all major city facilities.

The plan contains policies and strategies for human resources, new infrastructure development, and upgrades to existing telephone and computer systems. The city anticipates that it can improve staff productivity and job satisfaction and improve the delivery of services to the public by implementing the recommendations regarding the city's internal operations.

In addition, by installing a private telephone system and creating a fiber link among city facilities, the city can create a "virtual building" for telephone and computer purposes. The city anticipates installing fiber optic cabling in existing traffic control conduits and installing additional conduits when the city opens trenches for public works projects to create the fiber link. Thus, the city will be able to build a self-contained network at a low cost. The city also will be able to protect itself from cost increases for voice, video, and data services; provide itself with full bandwidth for voice and video services; become largely independent of the cable and telephone industries; and significantly increase the functionality of its telephone and computer systems.

Finally, the plan recommends that the city exert greater control over its rights of way to rationalize the impact of repeated street excavations by competing **telecommunications** companies. It is recommended that the city impose a moratorium after each major **street is cut.** It is also recommended that the city determine the present value of the damage done by each street opening and assess that cost to the applicant for a permit. Further, it is recommended that the city recover the costs of city resources expended to supervise, inspect, and control street excavations.

Unanswered Questions

In 1993, the city was invited to be an early participant on the information super-highway when Pacific Bell approached the city about using it as the site of a video-dialtone trial. The trial was ultimately abandoned, but during the eight months of negotiations, the city came to realize that it had more questions than answers regarding the economic, social, and service impacts of the superhighway.

Developing Technology. The technology itself is not fully developed, making it difficult for a city to know how to proceed, both as a regulator and as a consumer. Traditionally, cable systems used a copper wire-coaxial cable hybrid to deliver television programming signals, whereas twisted copper wires were used for telephone and computer communication. Now, fiber optic cabling is cheaper, smaller, carries a greater capacity than copper, and can carry large amounts of high-quality video, data, and sound. Fiber optic cabling is being laid in significant quantities in place of copper wiring by telephone companies, cable operators, and others, including utilities.

As a result of changes and advances in technology, the historical distinctions among telephone, cable, and computer are beginning to merge. Cable operators are seeking to invade the telephone market, long-distance carriers are trying to break into the local market, and the local carriers want to break into both cable and long-distance telephone markets.

As if this were not sufficiently confusing, the traditional wire-based forms of communication are being supplemented by wireless systems, such as cellular, microwave, and satellite, all of which will provide new services relating to voice, video, and data communications. Consumer markets never before available are opening to numerous competing vendors, many of whom are rushing to take advantage of these new opportunities without adequate preparation and without a final product.

The **Telecommunications** Act of 1996. The significance of the new **Telecommunications** Act is unclear. In February 1996, Congress passed sweeping new legislation that completely rewrote 60 years of laws regarding **telecommunications.** The impact and meaning of this new law may not be known for years. In the meantime, cities are faced with multiple providers seeking to install their new systems in the public right of way.

Public Works Issues. The deployment of the information superhighway will be a massive public works project. As more fiber optic-based competitors enter the market, each one will need to use the public right of way for the physical installation of each system. Cities will be facing requests for repeated excavations into the streets. This creates air pollution, noise pollution, and traffic control problems. It also increases costs to the cities for increased street maintenance and reduced pavement life.

Further, there is a limited amount of space available beneath the street. Other utilities such as gas, water, sewer, storm drain, and cable already are located in that space. A main concern for cities is that they need to avoid being crowded out of the space necessary to repair, replace, or expand their own
facilities.

Social and Service Issues. The deployment of the information superhighway raises social and service issues that may not be addressed by the private sector. As the technology continues to evolve, access onto the system becomes even more important. At present, the deployment of the information superhighway services is being determined on a piecemeal, private-investment basis. This may result in some segment of the community, such as residents, businesses, or government institutions, being excluded.

Another concern is cost. These are high-risk, for-profit, private business ventures. No one knows what applications will be available or what marketplace will develop for new services. The actual installations will require enormous capital expenditures. There is a risk that these companies will seek to recoup their investment by raising the rates for consumers, including local governments.

A Proactive Strategy

The city sought answers to its questions and became increasingly aware that there was little literature available regarding the public sector's perspective and less guidance. On September 6, 1994, the council took a series of actions designed to create a proactive strategy to better protect the city from market change and prepare for the future.

First, the council established the **telecommunications** commission, one of the first standing advisory boards of this type in the United States. Second, the council adopted a resolution that established its basic **telecommunications** policies:

* support for universal service and competition;

* a role for the city in the regulatory structure;

* reimbursement to the city for use of the public right of way and negative impacts on local infrastructure; and

* allocation to the city of **telecommunications** resources, including fiber optic cabling.

Third, the council directed staff to develop a comprehensive master plan that would include conducting a needs assessment of the city's public and private sectors to determine local priorities following the policy guidelines. The council retained a consultant to assist staff with this process. The proposed plan was divided into two sections. The first was an internal plan to determine the organization's **telecommunications** needs as they exist today and will exist through the next decade. The second was an external plan to assess the **telecommunications** needs of the community.

The planning process took a year. To develop the internal recommendations, the consultants interviewed more than 30 city employees, including department heads, senior supervisors, and key staff persons, to determine work flow in and among the city's departments and divisions. A physical inspection was made of virtually all city facilities - from city hall to sewer pumping stations. An

inventory of **telecommunications** equipment was taken to determine the nature and extent of information flow to and from each location.

With respect to the external plan, every effort was made to involve the business community, residents, and the school district. Surveys were designed and sent to more than 400 local businesses. Additional surveys were created and distributed to citizens through city service windows, at recreation classes, and at a booth sponsored by the **telecommunications** commission at the city's Fourth of July fair. Staff and consultants met with representatives of the business community and the school district.

Three basic network paradigms, or models, were reviewed. The first was the present system utilized by the city: reliance on the established network provided by Pacific Bell and by South Bay Cable Vision to provide telephone and video services to the city and its residents. The second paradigm is one that is presently being explored by numerous cities: the construction and operation of a full service, hybrid fiber-coaxial network to each residence, business, and government building within the city. The third paradigm was the one ultimately recommended to the council: the construction and operation of a private network among city buildings and used solely to carry the city's voice, data, and video. Under this paradigm, voice, data, and video would be delivered to residences and businesses by competing, commercial networks owned by companies like TCI, Pacific Bell, and the like.

The **telecommunications** commission was involved in every aspect of the planning process for the external plan. Every phase was reviewed by the commission at a public meeting and the completed draft plan was reviewed at two separate meetings before the document was forwarded to the council. All of the meetings were agendized and open to the public, and the public was actively encouraged to attend.

The final report made five key recommendations:

1) that the city upgrade the existing telephone system by installing a computerized telephone switch,

2) that the city establish a local area network to link the personal computers used by the city,

3) that the city create a management information systems department to oversee the city's **telecommunications** activities,

4) that the city construct a fiber ring around the city to carry municipal information, and

5) that the city take greater control over its rights of way both to protect its network and to rationalize the existing practice by which each private

telecommunications company insists on placing its own conduit and fiber cable under the city's major roadways.

By implementing these recommendations, the city seeks to make maximum use of communications technology to improve city services and the delivery of these improved services to the public. Information is increasingly becoming an asset that needs to be managed, like streets or parks. By comprehensively planning for the information convergence, the city will be better able to manage this asset in a way that benefits the entire community.

MILPITAS' **TELECOMMUNICATIONS** MASTER PLAN: THE FINANCE OFFICE PERSPECTIVE

With the adoption of the **telecommunications** master plan, the City of Milpitas had concurrently completed the process of selecting a new financial and management information system. The selection criteria were consistent with the recommendations of the **telecommunications** commission. The software that was selected will be client-server based, operating on a citywide network using devices with common office applications.

For the first time, employees and managers will have complete access to data on a common desktop platform. No longer will staff outside of the finance department have to wait to get their month-end revenue and expenditure reports to know how they are doing. Aside from typical finance modules, the finance office will be implementing a job-costing module. This will enable departments to track not only the cost of providing services, including labor, supplies, services, equipment, and any revenue generated but accomplishments as well.

Having a master plan makes this possible. The city council has adopted the master plan, giving its approval to the individual pieces, including the new financial system. There is a documented time line for implementation with staff and community support. It is exciting to have a master plan that is fully funded with the support of the city council. It means that this year's objectives will be next year's accomplishments.

Larry Sabo Director of Financial Services City of Milpitas, California

CECILIA M. QUICK is the assistant city attorney of Milpitas, California. This article originally appeared in the April 1996 issue of Western City and is reprinted with permission from the League of California Cities and the author.

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The San Diego Union-Tribune

May 29, 1994, Sunday

SECTION: BUSINESS; Ed. 1,2; Pg. I-1

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HEADLINE: The dream is a wonderland of information and entertainment. But for now, San Diego's ambitious rewiring is...IN THE TRENCHES

BYLINE: JAMES W. CRAWLEY; Staff Writer

BODY:

Jerry Clements wipes a hair-thin strand of glass with an alcohol-drenched swab. He carefully places the sliver into a miniature vise.

With the help of a TV camera, microscope, computer and lasers, Clemens aligns two strands of fiber. Then, with a flash of light and heat, the glass is fused.

Clements is splicing a new fiber-optic pipeline with 44 separate strands, each of which can carry thousands of phone calls or a large amount of computer data simultaneously. It's part of MCI's plan to rewire San Diego.

But MCI is hardly the only one.

In coming weeks, months and years, hundreds of men and women will be digging, hanging, pulling and splicing ribbons of glass and wire beneath and above the ground through San Diego and its suburbs as the area is wired to receive voice, data and video over broad-band networks -- the so-called information superhighway.

Many of the much-touted interactive TV services won't be introduced for years, and no one knows whether they'll live up to the hype.

But one thing's for sure: Fiber optics is coming, and for many neighborhoods, it's already here. The miles of fiber and the dollars already spent put San Diego in the world's top ranks of fiber deployment.

"We're clearly in the Top 10," said John Eger, director of the International Center for Communications and chairman of Mayor Susan Golding's City of the Future committee.

San Diego officials are encouraging the building of fiber-optic networks through the City of the Future program, announced earlier this month.

The city wants fiber-optic lines to grid San Diego so that futuristic telecommunications, such as videoconferencing with distant doctors, electronic access to city services and permits, distance learning and telecommuting, might be available to all residents.

"We hope to attract clean industries that will come here because they can hook into the information superhighway," Eger said.

"A communications hub is an economic development," he added.

While cable, telephone and other firms espouse those public service benefits, they really have their corporate eyes on a brass ring -- millions in profits from movies available on demand, home shopping, interactive video games, picture phones and the like.

The phone company, cable television franchises, long-distance carriers, San Diego Gas & Electric and even the city water department already have laid tens of thousands of miles of fiber-optic strands countywide over the past several years.

Nearly 55,000 miles of glass have been strung by the Top 3 companies.

"We knew there was some fiber being laid, but we never imagined how much," Eger said.

Half the story

But having fiber in the ground is just half the story. duplicative and disconnected. The fiber is useless unless it connects customers to equipment that transmits or stores information or video programs. And so far, that equipment is limited or nonexistent.

Communications-grade fiber is measured two ways: fiber miles and sheath miles.

A fiber or strand mile is a mile-long, single strand of fiber optic wire. For example, five fiber miles is equivalent to either five miles of single-strand fiber or a one-mile length of cable containing five strands.

Sheath or route miles measure the physical length of entire cable, no matter how many strands are included.

Without the city's prodding, Pacific Bell and Southwestern Cable have plans to install entirely new networks of fiber and coaxial cables in the northern half of the city and nearby suburbs during the next 2 1/2 years.

Cox Cable, meanwhile, expects to complete a $110 million upgrade of its cable system that will add 25,000 miles of fiber and provide 110 cable channels by the end of 1995.

While no one keeps detailed information, it's clear that well over $100 million already has been spent laying fiber through San Diego neighborhoods.

Pacific Bell has the most fiber in the ground here.

Some 35,000 miles of fiber-optic strands are in place here. The phone company has been installing fiber here since the mid-1980s.

Pacific Bell uses fiber in two ways. Most of the fiber is laid through business parks and downtown for use by commercial clients that need high-capacity lines for data transmission and other uses.

Regular telephone traffic is carried over another set of Pacific Bell fibers that connect many switching centers.

Cox Cable, meanwhile, increased its channel capacity in East County and South Bay communities and parts of San Diego by installing more than 15,000 miles of fiber. By year's end, another 10,000 miles will be hooked up here to complete the upgrade.

Another cable company, Dimension Cable, has installed about 5,000 fiber miles in its North County territory.

Long-distance carriers AT&T and MCI have about 100 sheath miles each laid in the county. The cables connect San Diego to the Los Angeles area, Mexico and national long-distance networks. These firms also sell or lease capacity on their fiber to Sprint and other long-distance firms.

San Diego Gas & Electric has connected various control centers, power plants, offices and substations with 75 sheath miles of fiber.

Teleport Communications Group, a New York-based company that builds, buys or leases fiber-optic lines in major cities, has been in San Diego for about a year, providing companies with lower-cost access to long-distance carriers that bypasses the local phone company.

The firm is keeping a low profile until this summer, when it plans to publicize its local network, its local manager said.

While commercial firms have led the way in installing fiber, San Diego's water department has already buried 25 miles of cable alongside its pipelines here. Mayor Susan Golding has said she is willing to lease those cables to commercial firms.

Whatever is now in the ground and strung from utility poles will be dwarfed in coming years by two construction projects that have just gotten under way.

Pacific Bell began constructing the first phase of its California First hybrid fiber-coax network in Pacific Beach this month. Next month, crews will begin work in Mira Mesa. During the next 2 1/2 years, Pacific Bell plans to install 16,250 fiber miles and 2,400 miles of coaxial cable in northern San Diego, Point Loma, La Jolla, Poway and Del Mar.

By 2000, the rest of San Diego should be rewired.

The phone company, if it wins Federal Communications Commission approval, will carry cable television, computer data and telephone conversations through a single coaxial wire to homes and businesses. Pacific Bell projects 370 TV channels and telephone service will be carried by its new network.

Eventually, interactive video services, such as movies on demand and video telephony, will become available.

"This is the largest undertaking I know of," said Fred Mehlick, who oversees Pacific Bell's local fiber installation. "We're changing the entire architecture (of the phone system). We're changing out the last 100 years."

Pacific Bell estimates it will cost up to $300 million to rewire the first phase. At an estimated cost of $1,000 per home, the entire bill could be $1 billion for San Diego County alone.

The phone company maintains that the upgrade will not cause telephone rates to **increase.**

Meanwhile, in roughly the same areas in San Diego County's northern half, Southwestern Cable has plans to spend $100 million through 1996 to install 70 sheath miles of fiber and add high-capacity coax. The goal is to offer its customers hundreds of new cable channels and video services.

Another cable project is just being completed through Sorrento Valley and University City, where MCI is completing its second fiber-optic corridor through the county.

The second MCI line will **increase** capacity and serve as a backup. During the spring, a Caltrans-hired construction crew severed MCI's fiber line to Los Angeles, cutting local long-distance service.

The second line, to be ready in July, will allow traffic to be rerouted in case of another interruption.

AT&T already has a second fiber route into the county.

Delicate task

Laying fiber isn't a simple task. built-up urban areas, armies of workers, giant cutting saws and boring equipment will "invade" neighborhoods.

"It's kind of an organization moving through a community," said Pacific Bell's Mehlick.

In fact, installation crews will make at least three sweeps through each neighborhood, said Paul Gagen, director of AT&T Bell Labs-West. AT&T will install the **underground cables** and video equipment for Pacific Bell.

Crews will install wires on utility poles in some older neighborhoods. But much of the work will involve trenching in streets and yards where utilities must be installed below ground.

AT&T crews will saw a 4-inch slice through street pavement with a "rock wheel" device. The wheel makes a trench, then a conduit is laid into the hole, followed by a machine that backfills the trench with a concrete slurry. Next, asphalt repairs the street, Gagen explained.

He estimated a crew can lay a half-mile of conduit each day. In all, AT&T has told local utility officials that it plans to trench a total of three to six miles a day through the year 2000.

After the conduit goes in, a separate crew will pull cable -- either fiber or coaxial -- through it.

At homes, crews will dig, trench or bore across yards to bring the coaxial cable the last few feet to homes.

AT&T engineers, worried about complaints of yard **damage,** have used an abandoned neighborhood near San Jose International Airport to experiment with ways to lay cables through front yards, said Mehlick. In many circumstances, crewmen will use shovels to dig the necessary trenches, AT&T's Gagen said.

The cable will be attached to a black box, called the network interface unit, that will split the signal between TV, telephone and computer. Unfortunately, that box currently is in prototype form only, and AT&T doesn't expect to have units manufactured until next spring.

So another crew will come back to many neighborhoods to install the black boxes.

Other potential roadblocks are possible. interconnections between the fiber-optic grids. While the fiber networks of Pacific Bell and the long-distance companies are connected, local cable firms are not hooked together. And no cable companies are hooked into the phone system.

While several companies' fiber grids are duplicative, Eger said many firms resist connections for technical or financial reasons.

"It doesn't make sense to have four or five fibers to every home," he said.

Another roadblock could be current regulations that forbid phone companies from providing cable TV service and cable firms from handling phone calls. But Congress may rewrite those rules in coming months.

And the fiber price tag won't be the largest expense in rewiring San Diego.

"While fiber is expensive, it's nothing compared to the cost of equipment," said Charles Christ, Teleport's local manager.

He suggested that switching equipment, computer controls and video storage will cost 10 times as much as fiber.

And just because fiber makes the new services possible doesn't mean it will be used efficiently.

"This is not a field of dreams," cautioned Eger. "If you build it, they may not come."

"Even some of the smartest people have little idea what the information superhighway will mean."

FIBER FACTS strands, each as wide as a human hair, are usually bound together in cable with bundles of four to more than 100 strands. Companies find it cheaper to lay extra strands in anticipation of future business. This unused fiber is called "dark fiber" and can remain unused or can be leased to other telecommunications firms.

Fiber lengths are stated in miles. A fiber mile is one strand of fiber measuring one mile long is equal to 12 fiber miles. On the other hand, a sheath or route mile equals the length of a fiber-optic cable, regardless of how many fiber strands are bundled together.

At least 11 companies and government agencies own and operate fiber-optic lines in San Diego today. The top three firms, PacBell (35,000 miles), Cox (15,000 miles) and Dimension (4,629 miles), own nearly 55,000 fiber miles of fiber-optic cable in San Diego County.

GRAPHIC: 2 PHOTOS / 1 MAP / 1 CHART; 1. Union-Tribune / NELVIN CEPEDA 2. Union-Tribune / JIM BURNET and KIRK CHRIST 3,4. SOURCE: Company reports, Union-Tribune / SEAN M. HAFFEY; 1. Wire work: MCI workers in Sorrento Valley place fiber-optic cables that will connect with a line to Los Angeles. 2. SAN DIEGO'S HIGH-FIBER DIET; Hundreds of TV programs, movies, games, electronic shopping malls and other video services could be bursting out of TV sets and computers during the next decade thanks to hair-thin slivers of glass that phone companies, cable operators, electric and water utilities and other firms are burying throughout San Diego County. Much of San Diego is already wired by fiber-optic cables and much more will be connected in coming weeks, months and years. 3,4. FIBER FACTS

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